Notes 2.5 “If, then” Statements and Deductive Reasoning

Examples:
If you are sick, then you should stay home.

If you do your homework, then you can watch TV.

If Cinderella completes her chores, then she can go to the ball.

If x is an even number, then x is divisible by 2.

If **A**, then **B**.

A—hypothesis
B—conclusion

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Different forms:

All golden retrievers are dogs.

RESTATE: If it is a golden retriever, then it is a dog.

All dogs are golden retrievers.

RESTATE: If it is a dog, then it is a golden retriever

All apples are fruit.

RESTATE: If it is an apple, then it is a fruit.

Converse The converse of an if, then statement switches the hypothesis and the conclusion. **If B, then A.**

If you are sick, then you should stay home.

CONVERSE:

If you stay home, then you are sick.

If you do your homework, then you can watch TV.

CONVERSE: If you watch TV, then you can do your HW.

If ~~you~~ she goes to the ball, then she did her chores.

Law of Syllogism

Combine 2 related if-then statements.

If p, then q. If q, then r. RESULT: **If p, then r.**

Example:

If Casey swings the bat, then he will get a hit.

If Casey gets a hit, then we will win the game.

IF Casey swings the bat, then we will win the game.

Underline the hypothesis and circle the conclusion for the following statements.

1. If two lines are perpendicular, then they form right angles.
2. If two lines form right angles, then they are perpendicular.
3. The party will be canceled, if it rains.
4. If it is Jack's birthday, then it is Liam's birthday.

Put the following sentences into IF, THEN form.

1. All insects bite.

2. All birds are owls.

IF it is a bird, then it is an owl

Use the law of syllogism to write an if-then statement after the pair of if-then statements.

If you do your homework, then you will reinforce your skills.

If you reinforce your skills, then you will pass the class.

IF you do your homework then you will Pass the CLASS

HW
p85-86 #s 1, 2, 6-8, 10, 17-19